

A. Claims 1, 4, 6, 7, 9, 10, 12 and 13 under 35 USC 102

Applicants urge that Miyakawa et al. do not identically disclose each and every feature recited in claims 1, 4, 6, 7, 10 and 12 and, therefore, do not provide the factual basis to deny patentability under 35 USC 102.

In particular, claims 1, 12 and 13 require "a plurality of optical fibers which differ from each other with respect to the composition of their respective optical regions." As discussed with respect to FIG. 2 on page 6, line 12 - page 7, line 22, fibers having different composition refers to different dopants in the fibers and each such dopant effects a different Stokes shift.

Miyakawa et al. recognize that stand-alone fibers having various fiber dopants are available (see paragraph [0041]) but do not teach, within a Raman amplifier, utilizing a plurality of optical fibers differing from each other with respect to their composition. The different fibers utilized in Miyakawa et al. differ from each other with respect to "effective areas" not composition as required by claims 1, 12 and 13. (See FIG. 5, FIG. 6 and the last three lines of paragraph [0003]).

As Miyakawa et al. do not identically disclose each and every feature recited in claims 1, 12 and 13, Applicants urge that Miyakawa et al. do not provide the factual basis to deny patentability of claims 1, 12 and 13 under 35 USC 102. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC 102 of claims 1, 12 and 13, as well as claims 4, 6, 7 and 10 which depend from claim 1.

B. Claims 1-3 and 5-10 under 35 USC 103

The Examiner asserts that Ma et al. teach multiple optical fiber amplifiers which inherently contain one or more pump sources and that Galeener et al. teach a variety of glass compositions. The Examiner concludes it would have been obvious to modify Ma et al. by substituting fibers of various compositions in order to increase Raman gain.

The PTO is charged with the initial burden of identifying a source in the applied prior art for: (1) claim features; and (2) the realistic requisite motivation for combining applied references to arrive at the claimed invention with a reasonable expectation of successfully achieving a specific benefit. *Smith Industries Medical Systems v. Vital Signs*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999).

The Examiner must provide a reason why one having ordinary skill in the art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). The Examiner should recognize that even if the prior art *could* be modified so as to result in the combination defined by the claims the modification would not have been obvious unless the prior art suggested the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). In the absence of such a prior art suggestion for modification of the references, the basis of the rejection is no more than inappropriate hindsight reconstruction using Applicant's claims as a guide. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967).

What may or may not be known in general does not establish the requisite realistic motivation. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995). The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103 is not an abstract concept, but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art, at the time the invention was made, to modify a reference in a specific manner to arrive at a specifically claimed invention with a reasonable expectation of achieving a specific benefit. *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). It is submitted that the Examiner has not discharged the burden of establishing obviousness.

With respect to claims 1-3 and 5-10, the Examiner has asserted that modifying Ma et al. in view of Galeener et al. would result in increased Raman gain. However, Applicants urge that no such beneficial result would likely occur if a variety of fibers where substituted in the apparatus of Ma et al. There is no suggestion in either reference to support a conclusion that by using different optical fibers for amplification in the Raman amplifier of Ma et al., a wavelength width having gain is broadened. Thus, there is no cogent explanation of why one of ordinary skill would have been impelled to modify Ma et al. in view of Galeener as suggested by the Examiner.

Applicants respectfully assert that without the requisite motivation to combine the applied references, a *prima facie* basis to deny patentability under 35 USC 103, with respect to claims 1-3 and 5-10, has not been properly established. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC 103 of claims 1-3 and 5-10.

C. Claims 2 and 3 under 35 USC 103

As discussed earlier with respect to claim 1, Applicants urge that Miyakawa et al. do not disclose or suggest every feature recited in claim 1. The specific Stokes shifts disclosed by Galeener et al. do not provide a disclosure nor suggestion of those elements identified as missing from Miyakawa et al. with respect to claim 1. Accordingly, Applicants urge that the combination of Miyakawa et al. and Galeener et al. do not teach nor suggest every claim limitation recited in claim 1 and, therefore, these references do not provide a *prima facie* basis on which to deny patentability under 35 USC 103 of claims 2 and 3 which depend from claim 1. Reconsideration and withdrawal of the rejection under 35 USC 103 of claims 2 and 3 are respectfully requested.

D. Claim 11 under 35 USC 103

Akasaka et al. is relied upon by the Examiner for teaching a "control unit" as recited in claim 11. However, Applicants urge that neither Miyakawa et al. nor Akasaka et al. teach or suggest "a plurality of optical fibers which differ from each other with respect to the composition of their respective optical regions", as required by claim 11. Applicants therefore urge that the combination of these references do not teach nor suggest every claim limitation recited in claim 11 and, therefore, these references do not provide a *prima facie* basis on which to deny patentability under 35 USC 103 of claim 11. Reconsideration and withdrawal of the rejection under 35 USC 103 of claim 11 are respectfully requested.

SUMMARY

In view of the above remarks, Applicant believe that claims 1-13 are in condition for allowance and passage of this case to issue is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT, WILL & EMERY



Wesley L. Strickland
Registration No. 44,363

600 13th Street, N.W.
Washington, DC 20005-3096
(202) 756-8000 WLS:MWE
Date: **February 3, 2003**
Facsimile: (202) 756-8087